

Work Order ID 163955***163955***

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Monday, July 10, 2017 12:52:42 PM

Item ID: D4155-041 Accept ***N900040100*** Setup Start ***NS1***
Revision ID: Stop ***NS2***
Item Name: Wearbar Assembly
Start Date: 7/20/2017 Start Qty: 6.00 ***6*** Cust Item ID:
Required Date: 7/28/2017 Req'd Qty: 6.00 ***6*** Customer:
Reference:

Approvals: Process Plan: DAS Date: JUL 12 2017 Tooling: _____ Date: _____ Run Start ***NR1***
QC: 3-85 Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr								
D4155	F								

100

0.00

100

Cold Saw

Hyd Mech

Memo

0.25

Cut D4155-1 at 94.00"

(EXTRA MATERIAL WILL BE CUT ON ASSEMBLY D4154-041)

6 Q.L 17-09-12

110

Weld per dwg & QSI004 4.5

0.00

110

autoweld 1

Automated Welding 1

Memo

2.40

1- USE GRINDER TO CHAMFER END AS PER DWG . SEE "DETAIL B"

SEE NOTE 9 FOR SURFACE BUILDUP

USE DT9756 WELDING FIXTURE

FOR AUTOMATED WELDING USE 8259 HARDCOAT
BATCH: M1383286 Q.L 17-09-12

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval		
Description Work Order Deviation				Disposition				Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY							
Environment ☐	☐ No Re-verification	☐ Pressure/Forced	☐ Temperature/Cure	☐ Power Loss/Surge	☐ Positioned Wrong				
Design ☐	☐ Operator	☐ Bending	☐ Set-up	☐ Folio/Program	☐ Outside Dimensions				
Doc/Data ☐	☐ Offset/Setup	☐ Centre Not Concentric	☐ BOM/Route	☐ Grain	☐ Over/Under tolerance				
Equip/Tooling ☐	☐ Supplier	☐ Cracks	☐ Broken/Damage/Defect	☐ Weld	☐ Part Incorrect				
Handling/Pre ☐	☐ Training	☐ Crimp/Kink/Ripple/Wave	☐ Inspection Incomplete/Unqualified	☐ Wrong Stock Pulled	☐ Part Lost/Missing				
Material ☐	☐ Use for Testing	☐ Cuffs	☐ Contamination	☐ Out of Sequence	☐ Part Moved				
Internal Transport ☐	☐ Poor Information	☐ Crushing	☐ Countersink	☐ Off-set	☐ Drawing				
Tribal Knowledge ☐	☐ Rushing	☐ Heat Treat	☐ Cut Too Short	☐ Mislabeled	☐ Finish				
LOA ☐	☐ Product Improvement	☐ Wave/Twist in Tube	☐ Instructions Incomplete/Unclear	☐ Fit/Function	☐ Misread				
Substation ☐	☐ Process Improvement	☐ Marks/Chatter	☐ Drill Holes	☐ Misaligned/off center	☐ Turning Sequence				
Past Expiry Date ☐	☐ Manufacturing Process								
Misidentified ☐	☐ Past Due								
		☐ OTHER :							

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Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
120 *120* QC Quality Control	QC10- Inspect visual per QSI004- ground welds Memo	0.00 0.06				<u>⑥</u>	<u>17-09-12</u>		<u>DAS</u> <u>9</u> <u>9-09</u>
130 *130* QC Quality Control	QC5- Inspect part completeness to step on W/O Memo	0.00 0.12				<u>⑥</u>	<u>17-09-12</u>		<u>DAS</u> <u>9</u> <u>9-09</u>
140 *140* Packaging Packaging	Identify as per dwg & Stock Location: <u>WA002</u> Memo LOCATION: WA002	0.00 0.06				<u>6</u>	<u>Q.L</u>	<u>17-09-14</u>	

DQA: _____ Date: _____



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Work Order update only ☐

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Misidentified ☐	Past Due ☐																																																														

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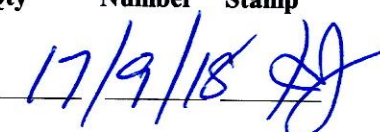
163955

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150	QC21- Final Inspection - Work Order Release	0.00							
150									
QC	Memo	0.60							
Quality Control									

17/9/18 

DAS
21
9-89

SEP 14 2017

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

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Root Cause		FAULT CATEGORY							
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐				
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐				
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐				
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐				
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐				
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐				
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐				
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐				
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Past Expiry Date ☐	Manufacturing Process ☐	OTHER : ☐							
Misidentified ☐	Past Due ☐								

Picklist Print

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Page 1

Work Order ID: 163955

163955

Parent Item: D4155-041

D4155-041

Parent Item Name: Wearbar Assembly

Start Date: 7/20/2017

Required Date: 7/28/2017

Start Qty: 6.00

Required Qty: 6.00

Comments: IPP REV:A 15.10.16 AS PER DWG REV.F5 DD VERF:JLM

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
M304B0.250x0.500		Purchased	No			100	f	109.9780	7.8	49.26316			
M304B0 250x0 500									**	Q.L 17-08-12			
304 BAR .250 x .500													

Location

Loc Qty

Loc Code

WA002

109.978

m137512

12.13

m137065

8.79

m137172

5.058

m137824

84

M138160
M138361

~~300~~ 15,66'
31,35'

DQA: _____ Date: _____



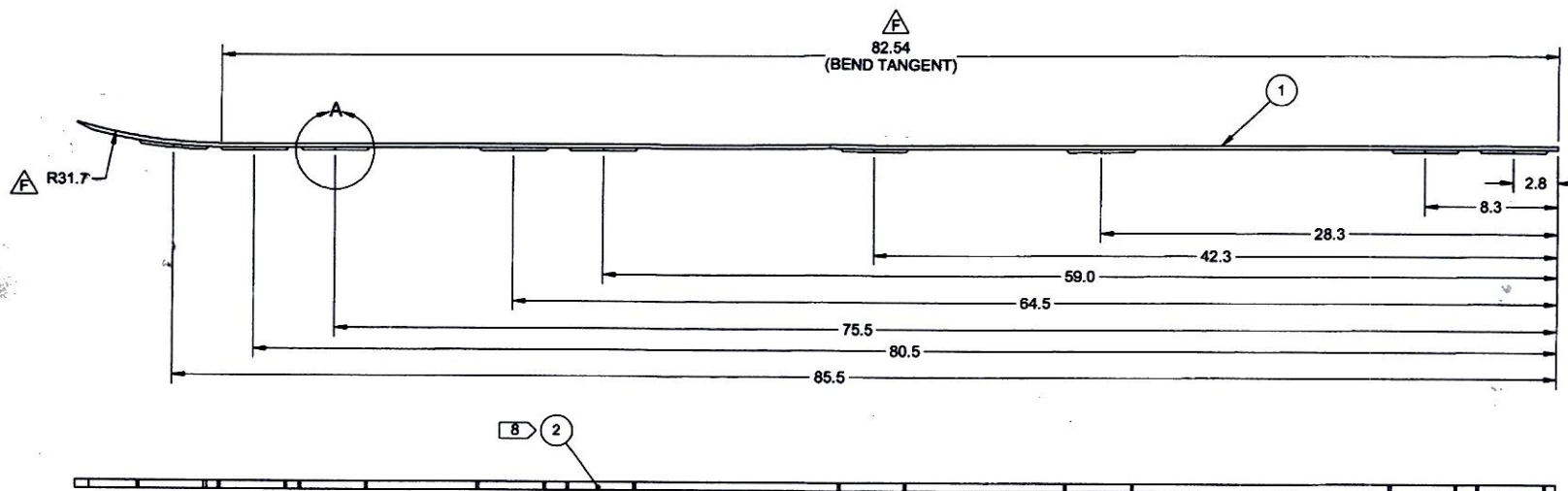
WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

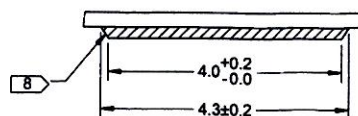
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Misidentified ☐	Past Due ☐																																																																

ITEM	QTY	P/N	DESCRIPTION
	X	D4155-041	WEARBAR ASSEMBLY
1	1	D4155-1	BAR
2	A/R	8259 \ 2059B	HARD SURFACING



D4155-041 WEARBAR ASSEMBLY



DETAIL A
9 PL
SCALE 3X

SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 163955 MLJ
1207-12

NOTES:

- 1) MATERIAL: N/A
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: N/A
- 6) IDENTIFICATION: IDENTIFY PER QSI 044 6.1
- 7) WEIGHT: 4.42 lbs
- 8) BUILDUP HARD SURFACING 0.18 - 0.20 THICK USING 8259 ROD PER QSI 004 SECTION 4.5 (AUTOMATED WELDING) OR BUILDUP HARD SURFACING 0.19 - 0.25 THICK USING 2059B ROD PER QSI 004 SECTION 4.1 (MANUAL WELDING)

REV.	DESIGN	SC	BY	DATE
F	ADDED -041 ASSEMBLY, FWD END BEND DEFINED. NOTCHES REMOVED FROM -1 FOR NEW PROCESS	AJS	15.09.18	
E	DIMENSION DATUM ON OPPOSITE END OF PART; 92.00 WAS 91.59, REF CIR12-10	SFM	13.02.20	
D	REDESIGNED WITH SHORTER CUTOOTS. NOTE 8 ADDED. (PAR 12-213); 0.18 WAS 0.13	AJS	12.08.07	
C	REMOVED TOOLING HOLE; ADD CUT OUT PROFILE (ZN C6-1 & C7-1); 2 DEC TOLERANCE (D1-1, D2-1)	RF	12.02.21	
B	CHANGED MANUFACTURING PROCESS; MATERIAL WAS 0.50 THICK (A6-1); 0.25 REF WAS 0.20 (B6-1); 0.13 WAS 0.08 (B7-1)	MB	11.04.05	
A	NEW ISSUE	SC	10.07.22	
DESIGN	SC	DART AEROSPACE USA, INC.		
DRAWN	AJS	EUGENE, OR		
CHECKED	AP	DRAWING NO.	REV. F	
MFG. APPR.	JLM	D4155	SHEET 1 OF 2	
APPROVED	WM	TITLE	SCALE	
DE APPR.	DS	BAR	NTS	
DATE	15.09.18	COPYRIGHT © 2010 BY DART AEROSPACE USA, INC. THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.		

RELEASED
2015-12-07
ECN 15-051

APPROVED

8 7 6 5 4 3 2 1

D

D

C

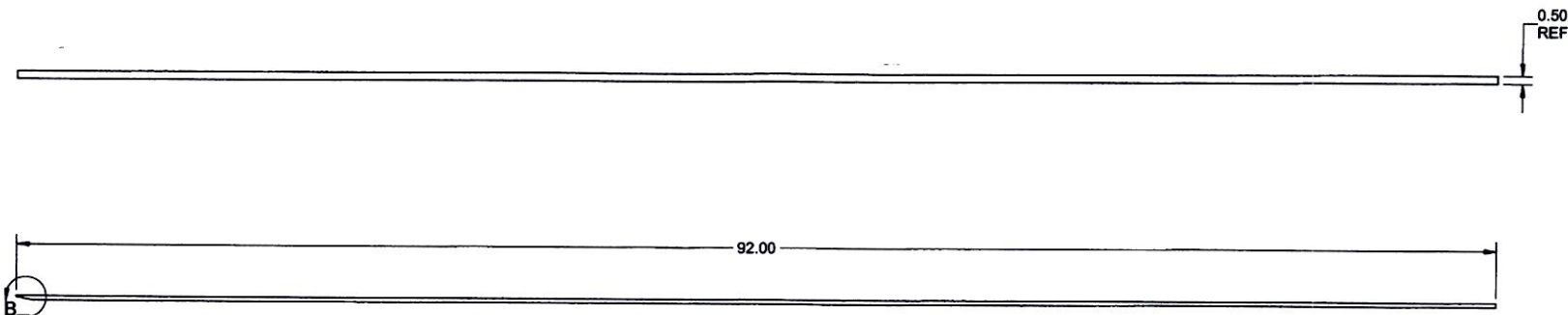
C

B

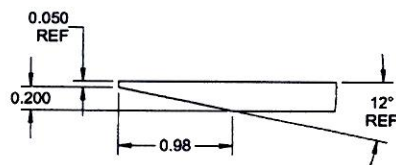
B

A

A



D4155-1 BAR



DETAIL B
SCALE 7X

NOTES:

- 1) MATERIAL : AISI 304/316 STAINLESS STEEL BAR, 0.25 THICK X 0.50 WIDE PER ASTM A276 OR ASTM A240
REF. DART SPEC. M304B0.250X0.500
- 2) FINISH : NONE
- 3) TOLERANCES : PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS : INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES : 0.005 TO 0.010 MAX
- 6) IDENTIFICATION : NONE
- 7) WEIGHT: 3.29 lbs

RELEASE
2015-12-07

APPROVED

DESIGN	SC	DART AEROSPACE USA, INC.	
DRAWN	AJS	EUGENE, OR	
CHECKED	AP	DRAWING NO.	REV. F
MFG. APPR.	JLM	D4155	SHEET 2 OF 2
APPROVED	WM	TITLE	SCALE
DE APPR.	DS	BAR	NTS
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8 7 6 5 4 3 2 1